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BACTERIAL LEAF BLIGHT OF GLADIOLUS

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Bacterial leaf blight of gladiolus was first described in the United States in 1924 (2). Since then the disease has been reported from Canada and Finland but has not been observed in Britain (1). It occurs sporadically in north and central Florida and has never been found in south Florida (3). Apparently, it is a disease which does not spread readily over large areas but stays more or less localized in regions where climatic conditions are favorable for the development of the pathogen.

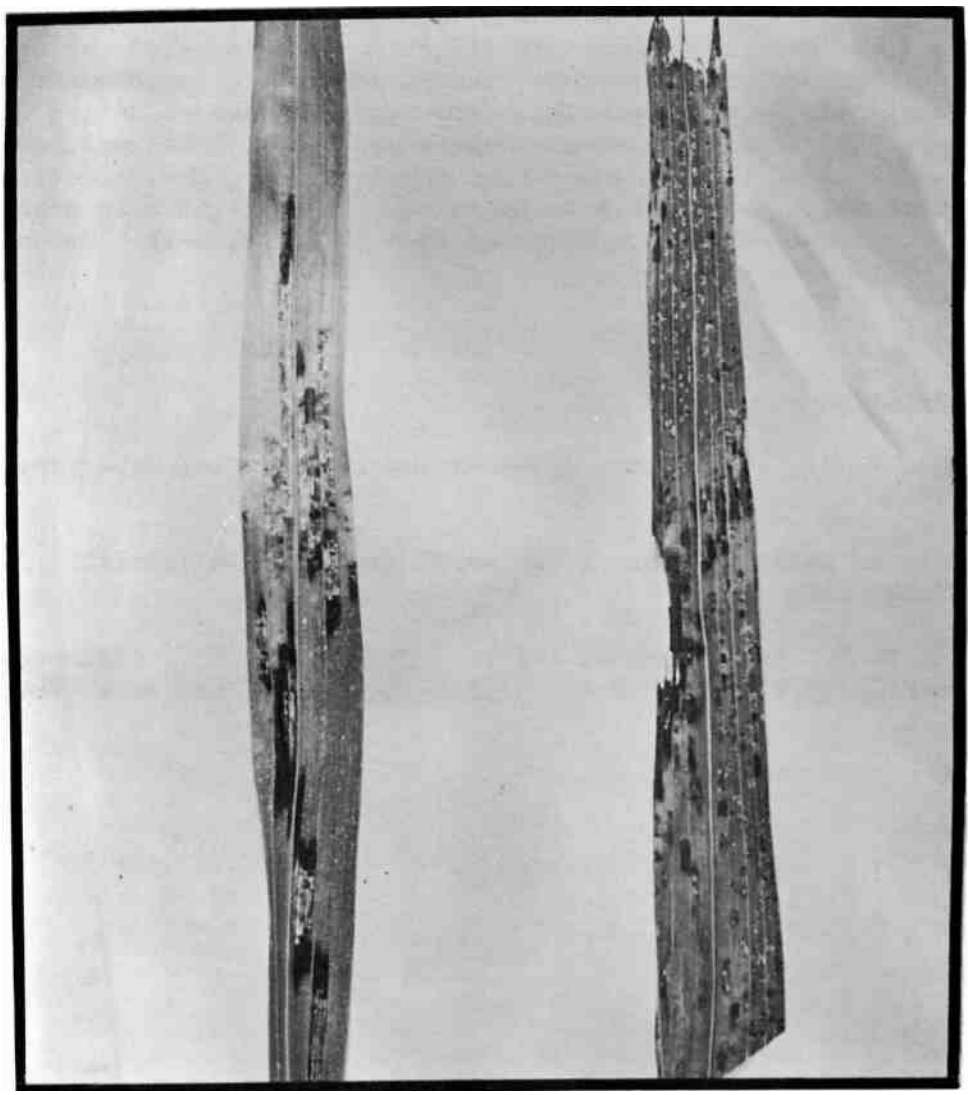

Fig. 1. Gladiolus leaves affected by bacterial blight.

SYMPTOMS. The causal agent is a bacterium, Xanthomonas gummisudans, (McCul-loch) Starr and Burkh., which can be easily isolated from diseased leaves by streaking on agar media. The bacteria enter the host plant by way of the stomata where they multiply and invade the adjoining intercellular spaces. The lesions first appear as small, water-soaked spots between the veins. They increase in size in longitudinal direction, forming square to rectangular, dark green spots. Several lesions may unite and produce larger areas of affected tissue until often the entire leaf surface is involved. As the affected tissue dies, the spots turn brown and later whitish gray and translucent (Fig. 1). Masses of bacteria ooze from the affected tissue to the surface where they form a sticky film to which soil particles may adhere. It is not uncommon for a leaf to be partly caked with soil particles. The sticky exudate softens under moist conditions and driving rain may spread the bacteria to other plants. Young stock is more susceptible to infection by the bacteria than mature plants and in serious cases the disease will interfere with the development of the corms.

CONTROL. Since only the leaves are affected, treatment of the corms is not considered an important aspect of disease control. Improvement of drainage and avoiding fields that have shown considerable disease during the previous year are the only control measures suggested. Warm, humid weather and poorly drained soil favor the development of the disease. The variety Beverly Ann appears much more susceptible to bacterial leaf blight than other varieties of specimens examined, i.e., Spic and Span, Valeria, White Friendship, and Hopman's Glory.

Literature Cited

1. Dowson, W. J. 1957. Plant diseases due to bacteria. Cambridge University Press.

2. McCulloch, Lucia. 1924. A bacterial blight of gladioli. J. Agr. Res. 27:225–229.

3. Magie, R. O., A. J. Overman and W. E. Waters. 1964. Gladiolus corm production in Florida. Univ. of Fla. Agr. Exp. Sta. Bull. 664.